VOLUME 1 OF 2

PETITION PROPOSING TOLERANCES FOR IMIDACLOPRID USE IN TREE NUTS (CROP GROUP 14) AND PISTACHIO

Keith W. Dorschner, Ph.D.

Interregional Research Project Number 4 (IR-4)
Rutgers
The State University of New Jersey
New Brunswick, NJ 08903

IR-4 PR No. 09220

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Bayer CropScience

Document Processing Desk
Office of Pesticide Programs
Registration Division (H7505C)
Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460-0001

Attention: Sidney Jackson

October 7, 2004

Bayer CropScience
2 T.W. Alexander Drive
P. O. Box 12014
RTP, NC 27709
Phone: (919) 549-2000

Subject: Use of Bayer CropScience Data
IR-4 Tree Nuts (Crop Group 14) and Pistachio Petition

Dear Mr. Jackson:

Bayer CropScience hereby authorizes the Agency to refer to any research and test data in the Agency's files on our active imidacloprid (Imidacloprid Technical (EPA Reg. No. 264-755), Admire 2 Flowable, (EPA Reg. No. 264-758), Provado 1.6 Flowable (EPA Reg. No. 264-763), Gaucho 550 SC (EPA Reg. No. 264-827), Gaucho 600 SC (EPA Reg. No. 264-828), Provado 75% Wettable Powder (EPA Reg. No. 264-761), and Provado 70 WG (EPA Reg. No. 264-823)) in support of IR-4's petition to establish tolerances for imidacloprid in or on the tree nuts crop group 14 and pistachio.

This authorization is granted only to IR-4's petition named above and only for the specific active ingredient described above. This authorization may not be transferred by IR-4 in any manner whatsoever without the expressed prior consent of Bayer CropScience. All information contained in our confidential ingredient statement or otherwise claimed as confidential or proprietary may not be released to IR-4 without the expressed prior consent of Bayer CropScioence.

Sincerely,

Melvin K. Tolliver

Melvin K. Tolliver
Registration Product Manager, Fungicides

SECTION A

THE NAME, CHEMICAL IDENTITY AND COMPOSITION OF IMIDACLOPRID

Please refer to letter of authorization, Page 3

Formulation used in testing: PROVADO® 1.6 Flowable Insecticide[1]
EPA Reg. No. 264-763

PP 5E6920

IMIDACLOPRID
—CONSOLIDATED LABEL—
"PROVADO 1.6 FLOWABLE"

Date: June 2005

Dear Barbara and Dan,

Per your request, we have consolidated all of the pending IR-4 crops/crop groups (coffee, caneberry CSG 13A, herbs, pomegranate, (sugar apple + others tropical fruits in this subgroup), tree nuts/pistachio and banana/plantain) and incorporated them into the 5 latest approved imidacloprid foliar and soil application product labels (date indicated). For each product label, you will find a pair of non-shaded and shaded versions. The shaded one has all of the additions/minor revisions highlighted in yellow (a list is shown below) in relation to its corresponding approved label.

Please let me know if you have any questions. Here comes Provado 1.6 Flowable.

Best Regards,
Jamin

Provado 1.6 Flowable

1. Based on the approved label stamped on February 4, 2005, Notification May 25, 2005.

2. Add 6 IR-4 crops/crop groups (caneberry not included). Pecan previously approved is merged into the TREE NUTS section (page 15).

3. Update the Resistance Management section to include several new CNI product names (page 3)

4. Add "10 month plant back for onion and bulb vegetables" on page 5. This plantback has been approved for Gaucho 550 SC (see page 5).

5. Remove cilantro from the LEAFY VEGETABLE section (page 9) and place in the HERBS section(page 8).

6. Remove Footnote # 1 "Use not permitted in California unless otherwise directed by supplemental labeling" in LEAFY VEGETABLE section (page 9). Watercress has been approved for use in California.

7. Correct a typographical error of "maximum interval between applications" to "minimum interval between applications" in the section of STRAWBERRY (page 10).

8. Correct a typographical error of "maximum application volume (water)" to "minimum application volume (water)" in the section of BUSHBERRY (page 11).

9. Add Asian citrus psyllid as a new Pest Controlled in the CITRUS section (page 12). We have efficacy data to support this addition.

10. Remove the middle column of the use direction table (in "fluid ounces/100 gallon") in the CITRUS section (page 12), the POME FRUIT section (page 13) and the STONE FRUIT section (page 14). This column has caused confusion to the grower level. The deletion of this column does not affect the integrity of the information in these use directions.

11. Correct a typographical error of "Maximum PROVADO allowed per crop season: 24 fluid ounces/Acre (0.1 lb. AI/A)" to "Maximum PROVADO allowed

per crop season: 24 fluid ounces/Acre (0.3 lb. AI/A)" in the section of HOP (page 13). In the Provado 70WG labeling, it is stated the maximum PROVADO allowed per crop season: 24 fluid ounces/Acre (0.3 lb. AI/A)" as 0.3 lb. AI/A for hop.

12. Delete PHI for CHRISTMAS TREE section (page 16). People and animal do not consume Christmas trees, so there is no need to have a PHI.

****

Jamin Huang, Ph.D.
Registration Product Manager
Bayer CropScience

LABEL 2
CONSOLIDATED

GROUP 4A INSECTICIDE

Provado® 1.6 Flowable Insecticide

For control of certain insects infesting various crops.

ACTIVE INGREDIENT:	
Imidacloprid, 1-[(6-Chloro-3-pyridinyl)methyl]-*N*-nitro-2-imidazolidinimine	17.4%
INERT INGREDIENTS:	82.6%
Contains 1.6 pounds of imidacloprid per gallon.	100.0%

EPA Reg. No. 264-763 EPA Est. No. 3125-MO-001

STOP - Read the label before use
Keep out of reach of children
CAUTION

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577
For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

FIRST AID

IF SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF IN EYES:	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
In case of emergency call toll free the Bayer CropScience Emergency Response Telephone No. 1-800-334-7577. Have a product container or label with you when calling a poison control center or doctor, or going for treatment.	
Note To Physician: No specific antidote is available. Treat the patient symptomatically.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as, barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton.
- Shoes plus socks

Follow manufacturer's instructions for cleaning/ maintaining personal protective equipment, PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering controls statements:

- When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

User should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. This product is toxic to wildlife and highly toxic to aquatic invertebrates.

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN MIXING AND APPLYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS, MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

SPRAY DRIFT MANAGMENT

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

Mixing and Loading Requirements

To avoid potential contamination of groundwater, the use of a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment is recommended. If containment pad is not used, maintain a minimum distance of 25 feet between mixing and loading areas and potential surface to groundwater conduits such as field sumps, uncased well head, sinkholes or field drains

For Aerial Applications:

The spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length should be used, and must not exceed 75% of the wing span or rotor diameter.

Importance of Droplet Size

An important factor influencing drift is droplet size. Small droplets (<150 - 200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, applications should be made to deliver the largest droplet spectrum that provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection.

Wind Speed Restrictions

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Restrictions During Temperature Inversions

Do not make aerial or ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing.

Airblast (Air Assist) Specific Recommendations for Tree Crops and Vineyards

Airblast sprayers carry droplets into the canopy of trees/vines via a radially, or laterally directed air stream. The following specific drift management practices should be followed:

- Adjust deflectors and aiming devices so that spray is only directed into the canopy;
- Block off upward pointed nozzles when there is no overhanging canopy;
- Use only enough air volume to penetrate the canopy and provide good coverage;

•Do not allow the spray to go beyond the edge of the cultivated area (i.e., turn off sprayer when turning at end rows);

•Only spray inward, toward the orchard or vineyard, for applications to the outside rows.

No-Spray Zone Requirements for Foliar Applications

Do not apply by ground within 25 feet, or by air within 150 feet of lakes; reservoirs; rivers; permanent streams, marshes or natural ponds; estuaries and commercial fish farm ponds.

Runoff Management

Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip. When used on erodible soils, best management practices for minimizing runoff should be employed. Consult your local Natural Resources Conservation Service for recommendations in your use area.

Endangered Species Notice

Under the Endangered Species Act, it is a Federal Offense to use any pesticide in a manner that results in the death of a member of an endangered species. Consult your local county bulletin, County Extension Agent, or Pesticide State Lead Agency for information concerning endangered species in your area.

Resistance Management

Some insects are known to develop resistance to insecticides after repeated use. As with any insecticide, the use of this product should conform to resistance management strategies established for the use area.

PROVADO® 1.6 Flowable Insecticide contains a Group 4A insecticide. Insect biotypes with acquired or inherent tolerance to group 4A products may eventually dominate the insect population if Group 4A products are used repeatedly as the predominant method of control for targeted species. This may eventually result in partial or total loss of control of those species by PROVADO® and to other Group 4A products.

The active ingredient in PROVADO® is a member of neonicotinoid chemical class. Avoid using a block of more than three consecutive applications of PROVADO® and/or other Group 4A products having the same or similar mode of action. Following a neonicotinoid block of treatments, Bayer CropScience strongly encourages the rotation to a block of applications with effective products of a different mode before using additional applications of neonicotinoid products. Using a block rotation or windowed approach, along with other IPM practices, is considered an effective use strategy for preventing or delaying an insect's pest's ability to develop resistance to this class of chemistry.

Foliar applications of PROVADO® or other Group 4A products from the neonicotinoid chemical class should not be used on crops previously treated with a long-residual, soil-applied product from the neonicotinoid chemical class.

Other Group 4A, neonicotinoid products used as foliar treatments include: Actara, Assail, CALYPSO®, Centric, Clutch, Intruder, LEVERAGE® TRIMAX® and Venom.

Other Group 4A, neonicotinoid products used as soil/seed treatment include: ADMIRE® Cruiser, Gaucho, Platinum, and Venom.

Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations. Also, for more information on Insect Resistance Management (IRM), visit the Insecticide Resistance Action Committee (IRAC) on the web at *http://irac-online.org/*.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as, barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton
- Shoes plus socks

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away. You may contact the Bayer CropScience Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Bayer CropScience Emergency Response telephone number is 1-800-334-7577.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Application Recommendations

PROVADO® should be applied as a directed or broadcast foliar spray. Thorough coverage of foliage is necessary without runoff for optimum insecticidal efficacy. Use adequate spray volumes, properly calibrated application equipment and spray adjuvant if necessary to obtain thorough coverage. Failure to provide adequate coverage and retention of PROVADO® on leaves and fruit may result in loss of insect control or delay in onset of activity. PROVADO® may be applied with properly calibrated ground or aerial application equipment. Minimum recommended spray volumes unless otherwise specified on crop specific recommended application sections are 10 gallons/Acre by ground application and 5 gallons/Acre through aerial equipment. PROVADO® may also be applied by overhead chemigation (see additional CHEMIGATION DIRECTIONS FOR USE section below) if allowed in crop specific recommended application section.

PROVADO® use on crops grown for production of true seed intended for private or commercial planting is generally not recommended by may be allowed under State specific supplemental labeling. As with any insecticide, care should be taken to minimize exposure of PROVADO® to honey bees and other pollinators. Use of PROVADO® on crops requiring bee pollination should be avoided during bloom and a minimum of 10 days prior to bloom. Additional information on PROVADO® uses for these crops and other questions may be obtained from the Cooperative Extension Service, PCAs, consultants or local Bayer CropScience representatives.

Do not apply more than 0.5 lbs. active ingredient per acre, per crop season, regardless of formulation or method of application, unless specified within a crop specific recommended applications section for a given crop.

Additional product use information may be obtained by calling 1-866-99BAYER (1-866-992-2937) or visiting our web site at *www.bayercropscienceus.com.*

Mixing Instructions

To prepare the application mixture, add a portion of the required amount of water to the spray tank and with agitation add Provado® 1.6 Flowable. Complete filling tank with balance of water needed. Maintain sufficient agitation during both mixing and application. Provado® 1.6 Flowable may also be used with other pesticides and/or fertilizer solutions. **Please see Compatibility Note below.** When tank mixtures of Provado® 1.6 Flowable and other pesticides are involved, prepare the tank mixture as recommended above and follow suggested Mixing Order below.

Mixing Order

When pesticide mixtures are needed, add wettable powders first, Provado® 1.6 Flowable, or other flowables second, and emulsifiable concentrates last. Ensure good agitation as each component is added. Do not add an additional component until the previous is thoroughly mixed. If a fertilizer solution is added, a fertilizer pesticide compatibility agent may be needed. Maintain constant agitation during both mixing and application to ensure uniformity of spray mixture.

Compatibility Note

Test compatibility of the intended tank mixture before adding Provado® 1.6 Flowable to the spray or mix tank. Add proportionate amounts of each ingredient in the appropriate order, to a pint or quart jar, cap, shake for 5 minutes, and let set for 5 minutes. Poor mixing or formation of precipitates that do not readily re-disperse indicates an incompatible mixture that should not be used. For further information, contact your local Bayer CropScience representative.

CHEMIGATION DIRECTIONS FOR USE

Refer to GENERAL DIRECTIONS FOR USE section before proceeding with chemigation application.

Types of Irrigation Systems

Chemigation applications of PROVADO® may be made to crops through overhead sprinkler chemigation systems if specified in crop-specific recommendations sections. Do not apply PROVADO® through any other type of irrigation system.

Water Volume

PROVADO® chemigation applications should be made as concentrated as possible. Retention of PROVADO® on target site of insect infestation is necessary for optimum activity. Chemigation of PROVADO® in water volumes exceeding 0.10 inches/Acre are not recommended.

Uniform Water Distribution and System Calibration

The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system must be calibrated to uniformly apply the rates

specified. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Chemigation Monitoring

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Drift

Do not apply when the wind speed favors drift beyond the area intended for treatment.

Required System Safety Devices

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or normally shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Using Water from Public Water Systems

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection. The pesticide injection pipeline must contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

ROTATIONAL CROPS*
Treated areas may be replanted with any crop specified on an imidacloprid label, or any crop for which a tolerance exists for the active ingredient, as soon as practical following the last application. For crops not listed on an imidacloprid label, or for crops for which no tolerances for the active ingredient have been established, a 12-month plant-back interval should be observed.
Immediate Plant-back: All crops on this label plus the following crops not on this label: barley, canola, cardoon, Chinese celery, corn (field, sweet and pop), Celtuce, cranberry*, cucurbits, Florence fennel, leafy petioles*, mustard seed*, rapeseed, rhubarb, sorghum, sugar beet, Swiss chard and wheat.
30-Day Plant-back: Cereals (including buckwheat, millet, oats, rice, rye and triticale), soybeans, safflower
10-Month Plant-back: Onion and bulb vegetables
12-Month Plant-back: All other crops
*Cover crops for soil building or erosion control may be planted any time, but do not graze or harvest for food or feed.

FIELD CROPS

Recommended Applications - PROVADO® 1.6 Flowable

Apply specified rate per acre as foliar spray as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. A spray adjuvant may be used to improve coverage. PROVADO® may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. PROVADO® may be tank mixed with other insecticides as recommended for knockdown of pests or for improved control of other pests.

COTTON

Pests Controlled	Rate fluid ounces/Acre
Aphids Fleahoppers Plant bugs (east of Rocky Mountains)	3.8
Pests Suppressed	
Lygus bug (west of Rocky Mountains) Whiteflies	3.8

Notes and Restrictions
Pre-Harvest Interval (PHI): **14 days**
Minimum interval between applications: **7 days**
Maximum PROVADO allowed per season: **22 fluid ounces/Acre** (0.28 lb AI/A)
Maximum number of PROVADO applications per crop season: **6**
Do not graze treated fields after any application of PROVADO.
Applications
Apply specified dosage of PROVADO as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO may be applied through properly calibrated ground, aerial or chemigation application equipment.

POTATO

Pests Controlled	Rate fluid ounces/Acre
Aphids Colorado potato beetle Flea beetles Leafhoppers Psyllids	3.8

Notes and Restrictions
Pre-Harvest Interval (PHI): **7 days**
Minimum Interval between applications: **7 days**
Maximum PROVADO allowed per crop season: **15.0 fluid ounces/Acre** (0.19 lb AI/A)
Applications
Apply specified dosage of PROVADO as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO may be applied through properly calibrated ground or aerial application equipment.

TOBACCO

Pests Controlled	Rate fluid ounces/Acre
Aphids	2.0 – 4.0
Flea beetles Japanese beetle	4.0

Notes and Restrictions
Pre-Harvest Interval (PHI): **14 days**
Minimum interval between applications: **7 days**
Maximum number of PROVADO allowed per crop season: **22.0 fluid ounces/Acre** (0.28 lb AI/A)
Applications
Apply specified dosage of PROVADO as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO may be applied through properly calibrated ground or aerial application equipment.

VEGETABLE and SMALL FRUIT CROPS

Recommended Applications - PROVADO® 1.6 Flowable

Apply specified rate per acre as foliar spray as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. A spray adjuvant may be used to improve coverage. PROVADO® may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. PROVADO® may be tank mixed with other insecticides as recommended for knockdown of pests or for improved control of other pests.

FRUITING VEGETABLES[1/]

Eggplant, Ground cherry, Okra, Pepper (including bell, chili, cooking, pimento and sweet), Tomato, Pepinos, Tomatillo

Pests Controlled	Rate fluid ounces/Acre
Aphids Colorado potato beetle Leafhoppers Whiteflies	3.8
Pepper weevil (Pepper only)	6.2

Notes and Restriction

Pre-Harvest Interval (PHI): **0 day**

Minimum interval between applications: **5 days**

Maximum PROVADO® allowed per crop season: **18.8 fluid ounces/Acre** (0.24 lb AI/A)

Applications

For all pests listed except pepper weevil, apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial application equipment.

For pepper weevil, apply specified dosage of PROVADO® as a broadcast or directed spray by ground equipment to infested area, timing applications prior to a damaging population becoming established. Good coverage of foliage and fruit is necessary for optimal control. Applications of PROVADO® must be incorporated into a full-season program, where alternations of effective products from multiple classes of chemistry and different modes of action are utilized in a blocked or windowed approach. For additional information, please contact your Bayer representative, Extension Specialist or crop advisor.

[1/]Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

GLOBE ARTICHOKE

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers	4.0 –10.0

Notes and Restrictions

Pre-Harvest Interval (PHI): **7 days**

Minimum interval between applications: **14 days**

Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.50 lb AI/A)

Applications

Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment.

HERBS [1/]

Crops of Crop Subgroup 19A including: Angelica, Balm (lemon balm), Basil (fresh and dried), Borage, Bumet, Camomile, Catnip, Chervil (dried), Chinese chive, Chive, Clary, Coriander (cilantro or Chinese parsley leaves), Costmary, Culantro (leaf), Curry (leaf), Dillweed, Horehound, Hyssop, Lavender, Lemongrass, Lovage (leaf), Marigold, Marjoram, Nasturtium, Parsley (dried), Pennyroyal, Rosemary, Rue, Sage, Savory (summer and winter), Sweet bay (bay leaf), Tansy, Tarragon, Thyme, Wintergreen, Woodruff, Wormwood.

Pests Controlled	Rate fluid ounces/Acre
Aphids Flea beetles Leafhoppers Whiteflies	3.5

Notes and Restrictions

Pre-Harvest Interval (PHI): **7 days**

Minimum interval between applications: **5 days**

Maximum PROVADO® allowed per crop season: **10.5 fluid ounces/Acre** (0.13 lb AI/Acre)

Applications

PROVADO® may be applied through properly calibrated ground and aerial application equipment. Thorough coverage with direct contact of the spray material to the target pests is required for optimum control. The addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's recommended use rate may improve coverage and control.

Note

Not all crops and/or varieties listed above have been tested for phytotoxic effects. Without specific knowledge about a particular crop and variety, Bayer CropScience strongly recommends that only small areas or numbers of plants of each be treated and evaluated prior to commercial use.

[1/] Use not permitted in California unless otherwise directed by supplemental labeling.

HEAD and STEM BRASSICA VEGETABLES [1/]

Broccoli, Broccoli raab (rapini), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccoli, Chinese (gai Lon) broccoli, Chines (bok choy) cabbage, Chinese (napa) cabbage, Chinese mustard (gai choy) cabbage, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip (tops or leaves)

Pests Controlled	Rate fluid ounces/Acre
Aphids Flea beetles Whiteflies	3.8

Notes and Restrictions

Pre-Harvest Interval (PHI): **7 days**

Minimum interval between applications: **5 days**

Maximum PROVADO allowed per crop season: **18.8 fluid ounces/Acre** (0.23 lb AI/A)

Applications

Apply specified dosage of PROVADO as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO may be applied through properly calibrated ground or aerial equipment.

[1/] Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.

LEAFY VEGETABLES[1/]

Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (roquette), Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chickory), Spinach (including New Zealand and vine (Malabar spinach, Indian spinach)), Watercress (commercial production only. Applications must not be made to native cress growing in streams or other bodies of water), Watercress (upland)

Pests Controlled	Rate fluid ounces/Acre
Aphids Flea beetles Whiteflies	3.8
Notes and Restrictions Pre-Harvest Interval (PHI): **7 days** Minimum interval between applications: **5 days** Maximum PROVADO® allowed per crop season: **18.8 fluid ounces/Acre** (0.23 lb. AI/A) Applications Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment. [1/] Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.	

LEGUME VEGETABLES[1/] (except soybean, dry)

Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and Bean

Bean (*Lupinus spp.*, includes grain lupin, sweet lupin, white lupin, and white sweet lupin)
Bean (*Phaseolus spp.*, includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean)
Bean (*Vigna spp.*, includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, Southern pea, urd bean, yardlong bean)
Pea (*Pisum spp.* Includes dwarf pea, edible pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar sanp pea)
Other Beans and Peas (Broad been (fava), chickpea (garbanzo bean), Guar, Jackbean, Lablab bean (hyacinth bean, lentil, Pigeon pea, soybean (immature seed), Sword bean)

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers Whiteflies	3.5
Note and Restrictions Pre-Harvest Interval (PHI): **7 days** Minimum interval between applications: **7 days** Maximum PROVADO® allowed per crop season: **10.5 fluid ounces/Acre** (0.13 lb. AI/A) Applications Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment. [1/] Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.	

ROOT, TUBEROUS and CORM VEGETABLES[1/]

Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Beet (garden)[2/], Burdock (edible)[2/], Canna (edible, Queensland arrowrroot), carrot[2/], Cassava (bitter & sweet)[2/], Celeriac[2/], Chayote (root), Chervil (turnip-rooted)[2/], Chickory[2/], Chufa, Dasheen (taro)[2/], Ginger, Ginseng, Horseradish, Leren, Parsley (turnip-rooted), Parsnip[2/], Radish[2/], Oriental radish (diakon)[2/], Rutabaga[2/], Salsify (black)[2/], Salsify (oyster plant), Salsify (Spanish), Skirret, Sweetpotato, Tanier (cocoyam)[2/], Tumeric, Turnip[2/], Yam bean (jicama, manoic pea), Yam (true)[2/] **For recommended applications on potato see Field Crops section**

Pests Controlled	Rate fluid ounces/Acre
Aphids Flea beetles Leafhoppers Whiteflies	3.5

Note and Restrictions
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **5 days**
Maximum PROVADO® allowed per crop season: **3.5 fluid ounces/Acre** on radish; **10.5 fluid ounces/Acre** (0.13 lb. AI/A) on other crops
Maximum PROVADO® applications per crop season: **1** on radish; **3** on other crops
Applications
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment.

[1/] Not for use on crops grown for seed unless allowed by state-specific supplemental labeling.
[2/] Tops or greens from these crops may be utilized for food or feed.

STRAWBERRY

Pests Controlled	Rate fluid ounces/Acre
Aphids Spittlebugs Whiteflies	3.8

Notes and Restrictions
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **5 days**
Maximum PROVADO® allowed per crop season: **11.3 fluid ounces/Acre** (0.14 lb. AI/A)
Do not apply during bloom or within 10 days prior to bloom or when bees are actively foraging.
Applications
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment.

TREE, BUSH and VINE CROPS

Recommended Applications - PROVADO® 1.6 Flowable

Apply specified rate per acre as foliar spray as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. A spray adjuvant may be used to improve coverage. PROVADO® may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. PROVADO® may be tank mixed with other insecticides as recommended for knockdown of pests or for improved control of other pests.

BANANA and PLANTAIN [1/]

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers Thrips	8.0

Notes and Restrictions:
Pre-Harvest Interval (PHI): **0 day**
Minimum interval between applications: **14 days**
Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.5 lb AI/A)
Applications:
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area insuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial application equipment. Aerial application of PROVADO® may result in slower activity and reduced control relative to results from ground application.

Addition of an organosilicone adjuvant at a rate not to exceed 2.0 fluid ounces/100 gallons, finished spray solution may improve coverage and pest control.

[1/] Use not permitted in California unless otherwise directed by supplemental labeling.

BUSHBERRY

Blueberry, Currant, Elderberry, Gooseberry, Huckleberry, Juneberry, Lingonberry, Salal

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers/Sharpshooters	3.0 – 4.0
Japanese beetles (adults) Thrips	6.0 – 8.0
Blueberry maggot	8.0

Notes and Restrictions
Pre-Harvest Interval (PHI): **3 days**
Minimum interval between applications: **7 days**
Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.5 lb. AI/A)
Maximum number of PROVADO® applications per crop season: **5**
Minimum application volume (water): 20.0 GPA – ground; 5.0 GPA – aerial.
Do not apply pre-bloom or during bloom or when bees are actively foraging.
Applications
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment.

CITRUS

Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Pummelo, Orange (sweet and sour), Tangelo, Satsuma mandarin, White sapote (Casimiroa spp.), and other cultivars and/or hybrids of these

Pests Controlled	Rate fluid ounces/Acre
Aphids Asian citrus psyllid Blackfly Leafhoppers/Sharpshooters Leafminers Mealybugs Scales Whiteflies	10.0 – 20.0 (depending on tree size, target pest and infestation pressure)
Pests Suppressed	
Thrips (foliage feeding thrips only)	10.0 – 20.0

Notes and Restrictions
Pre-Harvest Interval (PHI): **0 day**
Minimum interval between applications: **10 days**
Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.5 lb. AI/A)
Do not apply during bloom or within 10 days prior to bloom or when bees are actively foraging.
Applications
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment. Aerial application of PROVADO may result in slower activity and reduced control to results from ground application.
Scales – time applications to the crawler stage. Treat each generation.
The 20.0 fluid ounce/Acre rate is based on full sized trees. This rate may be reduced proportionally for smaller trees.

COFFEE [1/]

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers Whiteflies	8.0
Pests Suppressed	
Scales	8.0

Notes and Restrictions:
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **7 days**
Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.5 lb AI/A)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
Applications:
Apply specified dosage of PROVADO as a broadcast or directed spray to infested area insuring thorough coverage. PROVADO may be applied through properly calibrated ground or aerial application equipment. Aerial application of PROVADO may result in slower activity and reduced control relative to results from ground application.

[1/] Use not permitted in California unless otherwise directed by supplemental labeling.

GRAPE

American bunch grape, Muscadine grape and Vinifera grape.

Pests Controlled	Rate fluid ounces/Acre
Leafhoppers/Sharpshooters Mealybugs	3.0 – 3.8
Grapeleaf skeletonizer[1/]	3.8

Notes and Restrictions
Pre-Harvest Interval (PHI): **0 days**
Minimum interval between applications: **14 days**
Maximum PROVADO® allowed per crop season: **7.6 fluid ounces/Acre** (0.1 lb. AI/A)
Applications
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment.

[1/] Grapeleaf skeletonizer control can be expected from ground applications that provide thorough coverage of foliage. Aerial applications may provide suppression.

HOP

Pests Controlled	Rate fluid ounces/Acre
Aphids	8.0

Notes and Restrictions
Pre-Harvest Interval (PHI): **28 days**
Minimum interval between applications: **21 days**
Maximum PROVADO® allowed per crop season: **24.0 fluid ounces/Acre** (0.3 lb. AI/A)
Applications
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment.

POME FRUIT

Apple, Crabapple, Loquat, Mayhaw, Pear (including Oriental pear), Quince

Pests Controlled	Rate fluid ounces/Acre
Leafhoppers	4.0 – 8.0
Aphids (except woolly apple aphid) Leafminers San Jose scale	8.0
FOR PEAR, ONLY Mealybugs Pear psylla	20.0

Notes and Restrictions
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **10 days**
Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.5 lb. AI/A)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
Applications
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment. Aerial application of PROVADO may result in slower activity and reduced control to results from ground application.
Leafhoppers – apply low rate for low to moderate populations of white apple leafhoppers and high rate for high populations or for other leafhopper species. Apply PROVADO® while most leafhoppers are in the nymphal stage.
Leafminer – for first generation leafminer control, make application as soon as pollination is complete and bees are removed from the orchard. Greatest leafminer control will result from the earliest possible application. For second and succeeding generations of leafminer, optimal control is obtained from applications made early in the adult flight against egg and early instar larvae. A second application may be required 10 days later if severe pressure continues or if generations are overlapping. A single application may result in suppression only. PROVADO® will not control late instar larvae.
Mealybugs – apply maximum gallonage for tree with ground equipment. Ensure good spray coverage of the trunk and scaffolding limbs or other resting sites of mealybugs.
Rosy apple aphid – apply prior to leafrolling caused by rosy apple aphid.
San Jose scale – time applications to the crawler stage. Treat each generation.

POMEGRANATE [1/]

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers/Sharpshooters Whiteflies	8.0
Pests Suppressed	
Scales	8.0

Notes and Restrictions:
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **7 days**
Maximum PROVADO® allowed per crop season: **24.0 fluid ounces/Acre** (0.3 lb AI/A)
Do not apply pre-bloom or during bloom or when bees are actively foraging.

[1/] Use not permitted in California unless otherwise directed by supplemental labeling.

STONE FRUIT

Apricot, Cherry (including sweet and tart), nectarine, Peach, Plum (including Chickasaw, Damson and Japanese), Plumcot, Prune (fresh and dried)

Pests Controlled	Rate fluid ounces/Acre
Aphids Green June beetle Japanese beetle Leafhoppers/Sharpshooters Plant bugs Rose chafer San Jose scale	4.0 – 8.0
Cherry fruit fly (maggot of Eastern and Western)	8.0
Pests Suppressed	
Plum curculio Stink bugs	8.0

Notes and Restrictions for Apricot, Nectarine, Peach
Pre-Harvest Interval (PHI): **0 day**
Minimum interval between applications: **7 days**
Maximum PROVADO® allowed per crop season: **24.0 fluid ounces/Acre** (0.3 lbs. AI/A)
Minimum application volume (water): 50 GPA – ground application; 25 GPA – aerial application.
Do not apply pre-bloom or during bloom or when bees are actively foraging.

Notes and Restrictions for Cherries, Plums, Plumcot, Prune
Pre-Harvest Interval (PHI): **7 day**
Minimum interval between applications: **10 days**
Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.5 lbs. AI/A)
Minimum application volume (water): 50 GPA – ground application; 25 GPA – aerial application
Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications:
Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment. Aerial application of PROVADO® may result in slower activity and reduced control relative to results from ground application.

TREE NUTS [1/]

Crops of Crop Group 14 including: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut [black and English]

Pests Controlled	Rate fluid ounces/Acre
Aphids (except Black pecan aphid) Leafhoppers/Sharpshooters Phylloxera sp. (leaf infestations) Spittlebugs Whiteflies	3.5 – 7.0
Black pecan aphid Mealybugs San Jose scale	8.0

Notes and Restrictions
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **6 days**
Maximum PROVADO® allowed per crop season: **28.8 fluid ounces/Acre** (0.36 lb AI/A)
Minimum application volume (water): 50 GPA – ground application, 25 GPA – aerial application
Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications
Applications for control of San Jose scale should be timed according to crawler stage, treating each successive generation. Two applications on a 10 to 14-day interval may be required to achieve control.

[1/] Use not permitted in California unless otherwise directed by supplemental labeling.

TROPICAL FRUIT

Acerola, Atemoya, Avocado, Birida, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Ilama, Jaboticaba, Guava, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Persimmon, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Wax Jambu

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers/Sharpshooters Thrips Whiteflies	8.0
Pest Suppressed	
Scales	8.0

Notes and Restrictions
Pre-Harvest Interval (PHI): **7 days**
Minimum interval between applications: **10 days**
Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.50 lb. AI/A)
Maximum number PROVADO® applications per crop season: 5
Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications

Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment. Aerial application of PROVADO® may result in slower activity and reduced control relative to results from ground application.

OTHER CROPS

Recommended Applications - PROVADO® 1.6 Flowable

Apply specified rate per acre as foliar spray as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimal control. A spray adjuvant may be used to improve coverage. PROVADO® may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. PROVADO® may be tank mixed with other insecticides as recommended for knockdown of pests or for improved control of other pests.

CHRISTMAS TREE

Pests Controlled	Rate fluid ounces/Acre
Aphids Adelgids Sawflies	4.0 - 8.0

Notes and Restrictions

Minimum interval between applications: **7 days**

Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.50 lb. AI/A)

Applications

Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment. Aerial application of PROVADO® may result in slower activity and reduced control relative to results from ground application.

Gall-forming adelgis – time applications to coincide with full bud-swell or first bud-break of earliest bud-breaking trees. Once galls form spraying will be ineffective.

POPLAR/COTTONWOOD[1/]

(includes members of the genus *Populus* grown for pulp or timber)

Pests Controlled	Rate fluid ounces/Acre
Aphids Leaf beetles	4.0 - 8.0

Notes and Restrictions

Minimum interval between applications: **10 days**

Maximum PROVADO® allowed per crop season: **40.0 fluid ounces/Acre** (0.50 lb. AI/A)

Do not apply pre-bloom or during bloom or when bees are actively foraging.

Applications

Apply specified dosage of PROVADO® as a broadcast or directed spray to infested area ensuring thorough coverage. PROVADO® may be applied through properly calibrated ground or aerial equipment. Aerial application of PROVADO® may result in slower activity and reduced control relative to results from ground application.

[1/] Use not permitted in California unless otherwise directed by supplemental labeling.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and should be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience. All such risks shall be assumed by the user or buyer.

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NET CONTENTS:

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SECTION B

THE AMOUNT, FREQUENCY AND TIME OF APPLICATION OF IMIDACLOPRID IN TREE NUTS (CROP GROUP 14) AND PISTACHIO

SECTION B

THE AMOUNT, FREQUENCY AND TIME OF APPLICATION OF IMIDACLOPRID IN TREE NUTS (CROP GROUP 14)

Products: PROVADO® 1.6 Flowable Insecticide
ADMIRE® 2 Flowable Insecticide

EPA Reg. No.: 264-763 (PROVADO), 264-758 (ADMIRE)

Registrant: Bayer CropScience

Crop/Site/Commodity: Tree nut crop group

Target Pest/Problem: Aphid

Dosage: PROVADO® Insecticide

Apply 3.5 to 7.0 fluid ounces of PROVADO® Insecticide per acre in sufficient carrier volume to ensure uniform application.

Dilution Rate: Minimum 50 GPA for ground application; 25 GPA for aerial application

Method of Application: ground and aerial

Frequency/Timing of Application: Up to 2 applications/minimum 6 days between applications

Restricted Entry Interval (REI): 12 hours

Preharvest Interval (PHI): 7 days

Dosage: ADMIRE® Insecticide

Apply 16 to 32 ounces of ADMIRE® Insecticide per acre in sufficient carrier volume to ensure uniform application.

Dilution Rate: NA

Method of Application: ground and chemigation

Frequency/Timing of Application: Up to 2 applications/minimum 6 days between applications

Restricted Entry Interval (REI):12 hours

Preharvest Interval (PHI): 7 days

Note: Regardless of formulation or type of application (soil or foliar), do not apply more than a total of 0.5 lb. Active ingredient per acre per season.

PROVADO® 1.6 Flowable

Insecticide

EPA Reg. No. 264-763

TREE NUTS [1/]

Crops of Crop Group 14 including, but not limited to: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut [black and English]

Pests Controlled	Rate fluid ounces/Acre
Aphids (except Black pecan aphid) Leafhoppers/Sharpshooters *Phylloxera* sp. (leaf infestations) Spittlebugs Whiteflies	3.5 – 7.0
Black pecan aphid Mealybugs San Jose scale	8.0
Notes and Restrictions: Pre-Harvest Interval (PHI): **7 days** Minimum interval between applications: **6 days** Maximum PROVADO allowed per crop season: **28.8 fluid ounces/Acre** (0.36 lb AI/A) Minimum application volume (water): 50 GPA – ground application, 25 GPA – aerial application Do not apply pre-bloom or during bloom or when bees are actively foraging. **Applications:** Applications for control of San Jose scale should be timed according to crawler stage, treating each successive generation. Two applications on a 10 to 14-day interval may be required to achieve control. [1/] Use not permitted in California unless otherwise directed by supplemental labeling.	

ADMIRE® 2 Flowable Insecticide

EPA Reg. No. 264-758

TREE NUTS [1/]

Crops of Crop Group 14 including, but not limited to: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut [black and English]

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers/Sharpshooters Spittlebugs Whiteflies	16.0 – 32.0
Pests / Diseases Suppressed	
Pecan scab (from reduction in honeydew deposition)	16.0 – 32.0
Thrips (foliage-feeding only)	32.0

Notes and Restrictions:
Pre-Harvest Interval (PHI): **7 days**
Maximum ADMIRE allowed per season: **32.0 fluid ounces/Acre** (0.5 lb AI/Acre)
Do not apply pre-bloom or during bloom or when bees are actively foraging.
Applications:
Apply specified dosage of ADMIRE in one of the following methods:
1. Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2. Emitter or spot application in a minimum of 4 fluid ounces of mixture per emitter site;
3. Subsurface side-dress, shanked into the root-zone near emitter line. Treat distance wetted by the emitter set of each tree.

[1/] Use not permitted in California unless otherwise directed by supplemental labeling.

SECTION C

FULL REPORT OF INVESTIGATIONS MADE WITH RESPECT TO THE SAFETY OF THE PESTICIDE CHEMICAL IMIDACLOPRID

Please refer to letter of authorization, Page 3, to access the following data:

a) Human safety data
b) Domestic animal safety data
c) Fish and wildlife safety data

SECTION D

THE RESULTS OF TESTS ON THE AMOUNT OF IMIDACLOPRID RESIDUES REMAINING IN OR ON THE RAW AGRICULTURAL COMMODITY OF TREE NUTS

LIST OF STUDIES SUBMITTED WITH PETITION

VOLUME NO. AND TITLE

Volume 2 – PROVADO® 1.6F – Magnitude of the Residue in Almonds and Pecans (Crop Group 14 – Tree Nuts)

IMIDACLOPRID: MAGNITUDE OF THE RESIDUE ON TREE NUTS

Executive Summary

A total of ten (five almond and five pecan) field trials were conducted to evaluate the quantity of imidacloprid [1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-2 imidazolinimine, CAS#138261-41-3] residues in almond and pecan nut matrices following treatment of he nut trees with PROVADO 1.6F. PROVADO 1.6F is a flowable concentrate containing 1.6 lb imidacloprid/gal of formulation.

Two treated plots were used in each field trial. Two foliar spray applications of PROVADO 1.6F were made to the nut trees in each plot at a rate of 0.17 to 0.18 lb/ai/acre/application with a 6- to 9-day interval between applications beginning 6 to 16 days prior to the earliest harvest. Different spray volumes were used in the two plots; spray volumes in the 'dilute' plot (Plot 2) ranged from 307 to 384 gal/acre (GPA), while the spray volumes in the 'concentrate' plot (Plot 3) ranged from 43 to 90 GPA. All applications were made using ground-based equipment.

In the eight (four almond and four pecan) harvest experiments, single samples of treated unshelled nuts were collected from each plot at early to normal harvest at a 7- to 9-day preharvest interval (PHI) following the second application. In the two decline experiments (one almond and one pecan), single samples of treated unshelled nuts were collected from each plot at a 0-, 7-, 14- and 21-day PHI following the second application. Almonds were separated into nutmeats and hulls. Almond hulls, almond nutmeats and pecan nutmeats were analyzed for residues of imidacloprid.

Imidacloprid residues were converted to a common analyte, 6-chloronicotinic acid, which was derivatized prior to quantitation by gas chromatography using selected ion monitoring (GC/MS-SIM). The limit of quantitation (LOQ) was 0.02 ppm for almond hulls and 0.01 ppm for almond and pecan nutmeats.

The highest measured residue of imidacloprid detected in almond hulls was 2.59 ppm (69% dry matter), and this occurred at a 9-day PHI following a dilute spray of PROVADO 1.6F. However, in another sample adjusted for percent dry matter, the highest adjusted residue of imidacloprid in almond hulls was 5.21 ppm (adjusted from 24% to 90% dry matter), which occurred at a 7-day PHI following a dilute spray of PROVADO 1.6F. The imidacloprid residues observed in almond hulls treated with the dilute spray treatment were higher than residues observed in those hulls receiving the concentrate treatment. The residues in the almond hulls were essentially the same throughout the decline interval.

No total residue of imidacloprid greater than the LOQ was observed in almond nutmeats. The highest total residue of imidacloprid detected in pecan nutmeats was 0.01 ppm, and this occurred at a 7-day PHI following a dilute spray of PROVADO 1.6F.

Table B.1.2.1 Study Use Pattern

			Application						
Trial ID City, State	**Trial Start Year**	**EP[1]**	**Method/ Timing**	**GPA[2]**	**Rate (lb. Ai/A)**	**RTI[3] (days)**	**Total Rate (lb ai/A)**	**Tank Mix Adjuvants**	**Harvest Procedures[4]**
PO009-98D Fresno, CA [Decline trial]	1998	PROVADO® 1.6F	Airblast/Fruit ripe for picking	375 (1st appl) 379.1 (2nd appl)	0.175 (1st appl) 0.176 (2nd appl)	7	0.351	None	NA[5]
			Airblast/Fruit ripe for picking	52.2 (1st appl) 57.4 (2nd appl)	0.177 (1st appl) 0.174 (2nd appl)	7	0.351	None	NA
PO010-98H Porterville, CA	1998	PROVADO® 1.6F	Airblast/Fruit ripe for picking	368.4 (1st appl) 369.1 (2nd appl)	0.175 (1st appl) 0.175 (2nd appl)	6	0.350	None	NA
			Airblast/Fruit ripe for picking	43.4 (1st appl) 44.6 (2nd appl)	0.176 (1st appl) 0.176 (2nd appl)	6	0.352	None	NA
PO011-98H McFarland, CA	1998	PROVADO® 1.6F	Airblast/Fruit ripe for picking	371.3 (1st appl) 384.1 (2nd appl)	0.176 (1st appl) 0.176 (2nd appl)	7	0.352	None	NA
			Airblast/Fruit ripe for picking	44.5 (1st appl) 44.8 (2nd appl)	0.175 (1st appl) 0.176 (2nd appl)	7	0.351	None	NA

1 EP=End use product
2 GPA=Gallons per acre
3 RTI – Retreatment Interval
4 Only applicable for cotton commodities
5 NA- Not applicable

Table B.1.2.1 Study Use Pattern

			Application						
Trial ID City, State	**Trial Start Year**	**EP[1]**	**Method/ Timing**	**GPA[2]**	**Rate (lb. Ai/A)**	**RTI[3] (days)**	**Total Rate (lb ai/A)**	**Tank Mix Adjuvants**	**Harvest Procedures[4]**
PO012-98H Porterville, CA	1998	PROVADO® 1.6F	Airblast/Fruit ripe for picking	366.3 (1st appl) 360.6 (2nd appl)	0.175 (1st appl) 0.175 (2nd appl)	7	0.350	None	NA
			Airblast/Fruit ripe for picking	45.5 (1st appl) 48.6 (2nd appl)	0.175 (1st appl) 0.174 (2nd appl)	7	0.349	None	NA
PO013-98H Arbuckle, CA	1998	PROVADO® 1.6F	Airblast/At hull split; Colouring Advanced	320.6 (1st appl) 318.5 (2nd appl)	0.175 (1st appl) 0.175 (2nd appl)	7	0.350	None	NA
			Airblast/At hull split; Colouring Advanced	47.9 (1st appl) 49.8 (2nd appl)	0.174 (1st appl) 0.177 (2nd appl)	7	0.351	None	NA
PO021-98D Chula, GA [Decline trial]	1998	PROVADO® 1.6F	Airblast/ Schuck – split; Mature	84 (1st appl) 93 (2nd appl)	0.175 (1st appl) 0.175 (2nd appl)	6	0.350	None	NA
			Airblast/ Schuck – split; Mature	23 (1st appl) 25 (2nd appl)	0.175 (1st appl) 0.175 (2nd appl)	6	0.350	None	NA
PO022-98H Ray City, GA	1998	PROVADO® 1.6F	Airblast/ Shuck-split	367.5 (1st appl) 362.4 (2nd appl)	0.179 (1st appl) 0.176 (2nd appl)	7	0.355	None	NA
			Airblast/ Shuck-split	90.4 (1st appl) 87.8 (2nd appl)	0.177 (1st appl) 0.177 (2nd appl)	7	0.354	None	NA

1 EP=End use product
2 GPA=Gallons per acre
3 RTI – Retreatment Interval
4 Only applicable for cotton commodities
5 NA- Not applicable

Table B.1.2.1 Study Use Pattern

			Application						
Trial ID City, State	**Trial Start Year**	**EP[1]**	**Method/ Timing**	**GPA[2]**	**Rate (lb. Ai/A)**	**RTI[3] (days)**	**Total Rate (lb ai/A)**	**Tank Mix Adjuvants**	**Harvest Procedures[4]**
PO023-98H Alexandria, LA	1998	PROVADO® 1.6F	Airblast/ 80% fruits H. final	312.7 (1st appl) 307.3 (2nd appl)	0.175 (1st appl) 0.173 (2nd appl)	7	0.348	None	NA
			Airblast/ 80% fruits H. final	62.3 (1st appl) 60.8 (2nd appl)	0.176 (1st appl) 0.176 (2nd appl)	7	0.352	None	NA
PO024-98H Manitou, OK	1998	PROVADO® 1.6F	Airblast/ beginning of ripening/fruit coloration	310.1(1st appl) 314.7 (2nd appl)	0.181 (1st appl) 0.178 (2nd appl)	7	0.359	None	NA
			Airblast/ beginning of ripening/fruit coloration	67 (1st appl) 67.8 (2nd appl)	0.180 (1st appl) 0.175 (2nd appl)	7	0.355	None	NA
PO025-98H Duncan, OK	1998	PROVADO® 1.6F	Airblast/ harvest of veg. parts; beginning of ripening/fruit coloration	375.5 (1st appl) 369.4 (2nd appl)	0.174 (1st appl) 0.171 (2nd appl)	8	0.345	None	NAs
			Airblast/ harvest of veg. parts; beginning of ripening/fruit coloration	64.6 (1st appl) 65.8 (2nd appl)	0.175 (1st appl) 0.175 (2nd appl)	8	0.350	None	NA

1 EP=End use product
2 GPA=Gallons per acre
3 RTI – Retreatment Interval
4 Only applicable for cotton commodities
5 NA- Not applicable

Table B.1.3 Trial Numbers and Geographical Locations

	Tree Nuts (Crop Group 14)		
		Requested	
NAFTA Growing Region	**Submitted**	**Canada**	**U.S.**
1			
1A			
2	2		2
3			
4	1		2
5			
5A			
5B			
6	1		2
7			
7A			
8	1		2
9			
10	5		5
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
Total	10		10

Table C.1 Summaries of Recoveries

Matrix	Analyte	Type of Recovery[1]	Fortification Level (ppm)	Recoveries[2] (%)	Mean	Std. Dev.	Sample Size (n)
Almond nutmeats	Olefin	MV & CR	0.01	74	0.0091		
	Hydroxy	MV & CR	0.01	85	0.0102		
	6-CNA	MV & CR	0.01	101	0.0108		
	Guanidine	MV & CR	0.01	89	0.0092		
	Imidacloprid	MV & CR	0.01	76	0.0082		
	Mixed[3]	MV & CR	0.01	103	0.0105		
	Mixed	MV & CR	0.01	108	0.0110		
	Mixed	MV & CR	0.01	108	0.0110		
	Mixed	MV & CR	0.01	107	0.0111		
	Mixed	MV & CR	0.01	96	0.0098		
Overall					0.0107	0.0013	5
Pecan nutmeats	Olefin	MV & CR	0.01	105	0.0105		
	Hydroxy	MV & CR	0.01	97	0.0097		
	6-CNA	MV & CR	0.01	88	0.0088		
	Guanidine	MV & CR	0.01	88	0.0090		
	Imidacloprid	MV & CR	0.01	83	0.0085		
	Mixed	MV & CR	0.01	98	0.0104		
	Mixed	MV & CR	0.01	119	0.0125		
	Mixed	MV & CR	0.01	95	0.0101		
	Mixed	MV & CR	0.01	106	0.0112		
	Mixed	MV & CR	0.01	104	0.0106		
Overall					0.0110	0.0024	5

1 MV= Method validation; CR= Concurrent recovery

2 Residue values were corrected for any control interferences prior to the calculation of the percent recovery.

3 "Mixed" refers to a mixed standard solution containing imidacloprid/guanidine/olefin/hydroxy/6-CAN in the parent molar equivalent ratio of 1:1:1:1:1.

Table C.1 Summaries of Recoveries

Matrix	Analyte	Type of Recovery[1]	Fortification Level (ppm)	Recoveries[2] (%)	Mean	Std. Dev.	Sample Size (n)
Almond hulls	Olefin	MV & CR	0.02	106	0.0214		
	Hydroxy	MV & CR	0.02	101	0.0204		
	6-CNA	MV & CR	0.02	93	0.0188		
	Guanidine	MV & CR	0.02	110	0.0224		
	Imidacloprid	MV & CR	0.02	102	0.0208		
	Mixed[3]	MV & CR	0.02	110	0.0236		
	Mixed	MV & CR	0.02	101	0.0216		
	Mixed	MV & CR	0.02	97	0.0198		
	Mixed	MV & CR	0.02	89	0.0182		
	Mixed	MV & CR	0.02	108	0.0220		
	Mixed	MV & CR	0.02	104	0.0213		
	Mixed	MV & CR	0.02	92	0.0194		
	Mixed	MV & CR	0.02	97	0.0198		
Overall					0.0207	0.54	8
	Mixed	MV & CR	4.00	112	4.48		
	Mixed	MV & CR	4.00	111	4.46		
	Mixed	MV & CR	4.00	110	4.39		
Overall					4.44	0.09	3

1 MV= Method validation; CR= Concurrent recovery

2 Residue values were corrected for any control interferences prior to the calculation of the percent recovery.

3 "Mixed" refers to a mixed standard solution containing imidacloprid/guanidine/olefin/hydroxy/6-CAN in the parent molar equivalent ratio of 1:1:1:1:1.

Table C.2 Summary of Storage Conditions

Matrix	Storage Temp. (C)	Actual Storage Duration (days)	Interval Demonstrated Storage Stability (days)
Almond nutmeats, almond hulls, pecan nutmeats	< 0	572	728 to 769[1]

1 Stability studies have indicated that imidacloprid residues are stable for 24 months of freezer storage in the following representative rops: an oilseed (cottonseed), a non-oily grain (wheat), a leafy vegetable (lettuce), a root crop (potato), a tree fruit (apple) or a fruiting vegetable (tomato).

Table C.3 Residue Data from Crop Field Trials with Imidacloprid

Trial ID (City, State/Year)	NAFTA Growing Region	Crop/Variety	Commodity	Total Rate (lb ai/A)	PHI (days)	Residues (ppm)	
						Measured	Validated
PO010-98H (dilute) Porterville, CA/1998	10	Almond/Non-Pareil	Almond nutmeats	0.352	7	<0.003	<0.010
PO010-98H (conc) Porterville, CA/1998	10	Almond/Non-Pareil	Almond nutmeats	0.350	7	<0.003	<0.010
PO011-98H (dilute) McFarland, CA/1998	10	Almond Shrt Seas/Non-Pareil	Almond nutmeats	0.351	7	0.0074	<0.010
PO011-98H (conc) McFarland, CA/1998	10	Almond Shrt Seas/Non-Pareil	Almond nutmeats	0.352	7	0.0049	<0.010
PO012-98H (dilute) Porterville, CA/1998	10	Almonds/Merced	Almond nutmeats	0.350	7	<0.003	<0.010
PO012-98H (conc) Porterville, CA/1998	10	Almonds/Merced	Almond nutmeats	0.349	7	<0.003	<0.010
PO013-98H (dilute) Arbuckle, CA/1998	10	Almonds/Non-Pareil	Almond nutmeats	0.351	9	0.0051	<0.010
PO013-98H (conc) Arbuckle, CA/1998	10	Almonds/Non-Pareil	Almond nutmeats	0.350	9	0.0045	<0.010
PO022-98H (dilute) Ray City, GA/1998	2	Pecan/Desirable	Pecan nutmeats	0.354	7	0.0034	<0.010
PO022-98H (conc) Ray City, GA/1998	2	Pecan/Desirable	Pecan nutmeats	0.355	7	0.0019	<0.010
PO023-98H (dilute) Alexandria, LA/1998	4	Pecan/Jackson	Pecan nutmeats	0.352	7	0.0050	<0.010
PO023-98H (conc) Alexandria, LA/1998	4	Pecan/Jackson	Pecan nutmeats	0.348	7	0.0093	<0.010
PO024-98H (dilute) Manitou, OK/1998	8	Pecan/Natives	Pecan nutmeats	0.355	7	0.0108	<0.011
PO024-98H (conc) Manitou, OK/1998	8	Pecan/Natives	Pecan nutmeats	0.359	7	0.0060	<0.010
PO025-98H (dilute) Duncan, OK/1998	6	Pecan/Natives	Pecan nutmeats	0.350	7	0.0024	<0.010
PO025-98H (conc) Duncan, OK/1998	6	Pecan/Natives	Pecan nutmeats	0.345	7	0.0022	<0.010

Table C.3 Residue Data from Crop Field Trials with Imidacloprid

Trial ID (City, State/Year)	NAFTA Growing Region	Crop/Variety	Commodity	Total Rate (lb ai/A)	PHI (days)	Residues (ppm)	
						Measured	Validated
PO010-98H (dilute) Porterville, CA/1998	10	Almond/Non-Pareil	Almond hulls	0.352	7	2.36	2.36
PO010-98H (conc) Porterville, CA/1998	10	Almond/Non-Pareil	Almond hulls	0.350	7	1.35	1.35
PO011-98H (dilute) McFarland, CA/1998	10	Almond Shrt Seas/Non-Pareil	Almond hulls	0.351	7	1.48	1.48
PO011-98H (conc) McFarland, CA/1998	10	Almond Shrt Seas/Non-Pareil	Almond hulls	0.352	7	1.01	1.01
PO012-98H (dilute) Porterville, CA/1998	10	Almonds/Merced	Almond hulls	0.350	7	2.49	2.49
PO012-98H (conc) Porterville, CA/1998	10	Almonds/Merced	Almond hulls	0.349	7	1.05	1.05
PO013-98H (dilute) Arbuckle, CA/1998	10	Almonds/Non-Pareil	Almond hulls	0.351	9	2.59	2.59
PO013-98H (conc) Arbuckle, CA/1998	10	Almonds/Non-Pareil	Almond hulls	0.350	9	1.93	1.93

Table C.4 Summary of Residue Data from Crop Field Trials with Imidacloprid

		Residue Levels (ppm)							
Commodity	**Total Rate (lb ai/A)**	**PHI**	**Sample size (n)**	**Min.**	**Max.**	**HAFT**	**Median**	**Mean**	**Std. Dev.**
Almond nutmeats	0.350	7	8	<0.003	0.007	0.005	0.005	0.004	0.071
Pecan nutmeats	0.350	7	8	0.002	0.011	0.009	0.005	0.005	0.009
Almond hulls	0.350	7	8	1.01	2.59	2.48	1.50	1.78	1.58

SECTION E

PRACTICAL METHODS FOR REMOVING RESIDUE THAT EXCEEDS ANY PROPOSED TOLERANCE

Since it is unlikely that residues of imidacloprid in or on tree nuts and pistachios will exceed the proposed tolerance, methods for removing the residues are unnecessary.

SECTION F

PROPOSED TOLERANCE FOR THE PESTICIDE CHEMICAL IMIDACLOPRID USE IN OR ON TREE NUTS (CROP GROUP 14)

AMENDS 40 CFR 180.472

The petitioner, IR-4, on behalf of the Agricultural Experiment Stations of North Carolina and California, requests the establishment of a tolerance for residues of the insecticide imidacloprid (1-[6-chloro-3-pyridinyl)methyl]-N-nitro-2 imidazolindinimine) and its metabolites containing the 6-chloropyridinyl moiety, all expressed as 1-[6-chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolindinimine, in or on the following raw agricultural commodities:

RAC	Proposed Tolerance
Nut, tree, group 14	0.01 ppm
Almond, hulls	2.5 ppm
Pistachio	0.01 ppm

SECTION G

REASONABLE GROUNDS IN SUPPORT OF OUR PETITION FOR IMIDACLOPRID IN OR ON TREE NUTS (CROP GROUP 14) AND PISTACHIO

IR-4 received a request from North Carolina and California for the use of imidacloprid on tree nuts and pistachios for the control of aphids and mealybugs. Imidacloprid is a very effective insecticide for control of these pests and has been classified as an OP-replacement.

This study was conducted with PROVADO® 1.6 Flowable Insecticide applied at a combined total of 0.350 ai/A to treated almond and pecan plots. Recently the EPA ChemSAC approved an IR-4 proposal to allow foliar applications to cover soil applications (See minutes of 7/23/03 ChemSAC attached). For example, if the data is generated from foliar applications totaling 0.5 lb ai/A, then the same amount can be applied to the soil even though soil residue data were not collected. This is because imidacloprid applied to the soil results in very low residues in the harvested commodity. However, regardless of the application method (soil and/or foliar), only 0.5 lb ai/A is available for a foliar application. If 0.5 lb ai/A is applied to the soil, foliar applications will not be allowable.

IR-4 also requests a separate tolerance for pistachio. Pistachio has not yet been placed into the tree nuts crop group; however, EPA is allowing pistachio tolerances based upon almond data (See attached HED Reviewer's Guide dated September 20, 2001).

10/29/03

MEMORANDUM

Subject: Minutes of the 7/23/03 ChemSAC meeting

To: HED's Chemistry Interest Group

From: HED's Chemistry Science Advisory Council

Attendees: Rick Loranger, George Kramer, Leung Cheng, Thurston Morton, Will Donovan, Mike Doherty, Tom Bloem, Sherrie Kinard, Bill Smith, Dave Soderberg, Danette Drew, and Bill Hazel

1. ChemSAC minutes approved. The draft minutes of the 7/9/03 and 7/16/03 ChemSAC meetings were approved with minor comments.

2..Imidacloprid soil treatment waiver request from IR-4. Via Hoyt Jamerson of RD, IR-4's Keith Dorschner requested that the Agency waive the requirements for field trial data to support soil application of Imidacloprid to all tree, berry, and vine crops. Data summaries and attached HED reviews were submitted in support of the argument that the existing, complete data sets and tolerances reflecting foliar applications of imidacloprid should easily cover the much lower and typically nondetectable residues resulting from soil application. The maximum total seasonal rate, regardless of application method, is proposed to be the same as that currently labeled for foliar treatments. Metabolites resulting from soil and foliar treatments have previously been determined by HED to be similar. Also, existing foliar treatment field trial data and the tolerances are based on a common moiety method. Comparisons of IR-4 data on foliar vs. limited soil-applied imidacloprid or the two treatments combined indicate that the foliar treatments clearly drive the magnitude of the resulting residues. ChemSAC concluded that additional field trial data reflecting soil applications of imidacloprid are not required to support this proposed amended registration on perennial food crops (orchard, berry, and vine crops) as the residues resulting from foliar treatments are expected to greatly outweigh those resulting from soil treatments. Any slight additional residues from soil treatments are expected to be covered by existing tolerances established to reflect foliar applications. However, the SAC did note that, if similar requests are made in the future for annual food crops, data comparing residues in/on several representative row crops resulting from foliar and soil applications would be necessary.

3. Enforcement of residues in processed products exceeding residues in the RAC. Two examples were raised of potential enforcement issues resulting when residues in a processed product having no tolerance exceed the established tolerance in the RAC from which it was derived: butter and dried strawberries. FDA and other enforcement Agencies occasionally encounter situations such as this and request advice from EPA. A search of the CFR 40 reveals that tolerances have never specifically been established in these two processed foods reflecting treatment of the RAC from which they were derived. It could be that residues in butter are expected to be covered by the tolerance in milk fat or potential concentration in milk fat based on the fat percentage of milk and the whole milk tolerance. Freeze-dried strawberries have not been recognized as a processed food of commercial or dietary significance; thus the Agency has not yet determined the need of requiring residue data or establishing tolerances. Certainly, numerous other such processed foods exist. It was the opinion of the ChemSAC that the Agency should either establish tolerances in such processed foods or develop an agreement with FDA and other enforcement Agencies that they should use discretion in such cases by applying a default concentration factor to be applied to the RAC tolerance to determine permissible residue levels in the processed product. This would require investigation into the maximum theoretical concentration factors for residues in processed foods compared to those in the treated RAC. The more commercially

significant processed products falling into this category will likely be added to Table 1 of Series 860 of the OPPTS Guidelines - Residue Chemistry. Less significant or emerging processed products should probably be handled on a case-by-case basis as they arise. [Note that this discussion topic does not address certain collective tolerances (such as "Processed foods") that typically reflect residues resulting from treatment of stored and often packaged foods, perhaps including butter or dried strawberries, as opposed to residues derived from a treated RAC.]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

September 20, 2001

MEMORANDUM

SUBJECT: Reviewer's Guide and Summary of HED ChemSAC Approvals for Amending Commodity Definitions [40 CFR §180.1(h)] and Crop Group/Subgroups [40 CFR §180.41].

Bernard A. Schneider

FROM: Bernard A. Schneider, Ph.D., Senior Plant Physiologist
Chemistry & Exposure Branch 1
Health Effects Division (7509C)

THRU: William Hazel, Ph.D., Chairperson,
HED Chemistry Science Advisory Council (ChemSAC)

W. J. Hazel

TO: Hoyt L. Jamerson, Minor Use Officer
Registration Division (7505C)

In order to update and provide guidance to our residue chemistry reviewers and our partner's USDA-IR-4 and California EPA Department of Pesticide Regulation (CDPR) we have prepared this document which lists the revisions and amendments to Commodity Definitions under 40 CFR §180.1(h) and Crop Group/Subgroups under 40 CFR §180.41 that have been approved by the HED Chemistry Science Advisory Council (ChemSAC). The changes are entitled: I. Tropical and subtropical fruit commodity definitions; II. White sapote change to crop group and commodity definition; III. Commodity definition change for celery; IV. New commodity definition for parsley = cilantro; V. New commodity definition for winter squash; VI. Crop group change for turnip greens; VII. Almond residue data translatable to pistachios; VIII . Lingonberry, Juneberry, and Salal added to Crop Group 13 Berries and Crop Subgroup 13-B Bushberry.

Reports, written by Dr. B. A. Schneider, for the analysis of each commodity definition and crop group/subgroup revisions can be obtained from the author at 703-305-5555 or E-mail schneider.bernard@epa.gov. The correct commodity term for each of the commodities discussed in this document can be found in the EPA Food and Feed Commodity Vocabulary (see http://www.epa.gov/pesticides/foodfeed).

A user's index to commodities and what sections to find the changes occurring are as follows:

COMMODITY	CHANGE IN ITEM
Acerola	I
Acorn squash	V
Almond	VII
Atemoya	I
Avocado	I
Birida	I
Black sapote	I
Brassica Leafy Vegetables Group	VI
Butternut squash	V
Calabaza	V
Canistel	I
Celery	III
Cherimoya	I
Chinese celery	III
Cilantro	IV
Citrus	II
Citron citrus	II
Citrus fruits	II
Citrus Fruit Group	II
Cucurbit Vegetables Group	V
Custard apple	I
Cushaw	V
Feijoa	I
Finochio	III
Florence fennel	V
Forage turnip	VI
Grapefruit	II
Guava	I
Herb Subgroup	IV
Herbs and Spices Group	IV

COMMODITY	CHANGE IN ITEM
Hubbard squash	V
Ilama	I
Jaboticaba	I
Juneberry	VIII
Kumquat	I
Leafy Vegetables except Brassica Crop Group	III
Leaves of Root and Tuber Vegetables Crop Group	VI
Lemon	II
Longan	I
Lychee	I
Lime	II
Lingonberry	VIII
Mamey sapote	I
Mango	I
Orange	II
Papaya	I
Parsley	IV
Passionfruit	I
Pistachio	VII
Pummelo	I
Pulsan	I
Pumpkin	IV
Rambutan	I
Salal	VIII
Sapodilla	I
Soursop	I
Spanish lime	I
Spice Subgroup	IV
Star apple	I
Starfruit	I
Sugar apple	I
Sweet anise	III
Sweet fennel	III
Tangelo	II
Turnip, forage	VI
Turnip greens	VI
Turnip tops	VI
Uniq fruit	I
Wax jambu	I
White sapote	II
Winter squash	V

ITEM I. TROPICAL AND SUBTROPICAL FRUIT COMMODITY DEFINITIONS:

The six new tropical/subtropical fruit crop definitions are as follows:

General Commodity	Specific Commodities included in definition
Papaya	Papaya; black sapote; canistel; mamey sapote; mango; sapodilla; and star apple.
Avocado	Avocado; black sapote; canistel; mamey sapote; mango; papaya; sapodilla, and star apple.
Grapefruit	Grapefruit, pummelo and their citrus cultivars and/or hybrids of these including Uniq fruit.
Guava	Guava; feijoa; jaboticaba; wax jambu; starfruit; passionfruit; and acerola.
Lychee	Lychee; longan; Spanish lime; rambutan; and pulasan.

- Modifications or expansions have also been approved for two existing crop definitions, sugar apple and white sapote.
- For the Sugar apple commodity definition: cherimoya, ilama, soursop and biriba will be added to the existing sugar apple definition, which currently covers sugar apple, atemoya and custard apple as follows:

General Commodity	Specific Commodities included in definition
Sugar apple	Sugar apple, atemoya, custard apple, cherimoya, ilama, soursop, and birida.

II. WHITE SAPOTE CHANGE TO CROP GROUP AND COMMODITY DEFINITION:

There are two actions concerning white sapote.

- The first action concerns white sapote becoming a member of the Citrus Fruits Crop Group [40 CFR 180.41 (10)].

- The second action concerns adding white sapote to the Citrus fruit commodity definition [40 CFR §180.1(h)] as follows:

General Commodity	Specific Commodities included in definition
Citrus fruits	Grapefruit, lemons, limes, oranges, tangelos, citrus citron, kumquats, white sapote (Casimiroa spp.) and other cultivars and/or hybrids of these.

ITEM III. COMMODITY DEFINITION CHANGE FOR CELERY:

Chinese celery (Apium graveolens var. secalinum) will be added to the celery commodity definition under 40 CFR §180.1(h) as follows:

General Commodity	Specific Commodities included in definition
Celery	Celery, Florence fennel (sweet anise, sweet fennel, finocchio), Chinese celery, (fresh leaves and stalk only).

Note: Chinese celery is a member of Crop Group 4: Leafy Vegetables, except Brassica group [40 CFR 180.41 (4)].

ITEM IV. NEW COMMODITY DEFINITION FOR PARSLEY = CILANTRO:

A new commodity definition under 40 CFR §180.1(h) is established for parsley as follows:

General Commodity	Specific Commodities included in definition
Parsley	Parsley, Cilantro.

Note: The raw agricultural commodity (RAC) for parsley is parsley, leaves; and for cilantro is cilantro, leaves. The seeds of cilantro are coriander, seed and they are not covered as part of this commodity definition. Also, coriander, seed is a member of Crop Group 19: Herbs and Spices Group, and Crop Subgroup 19B: Spice Subgroup. Cilantro, dried leaves and parsley, dried leaves will remain as a members of Crop Group 19: Herbs and Spices Group, and Crop Subgroup 19A: Herb Subgroup.

V. NEW COMMODITY DEFINITION FOR WINTER SQUASH:

General Commodity	Specific Commodities included in definition
Winter Squash	Fruits of the gourd (*Cucurbitaceae*) family that is consumed when mature, it has an inedible rind, and once picked they can be stored, and harvested seed can be germinated; e.g., Cucurbita spp. (acorn squash, hubbard squash, pumpkin, calabaza, butternut squash, cushaw and other cultivars and/or hybrids of these.

Note: This new commodity definition has been incorporated into Crop Group 9: Cucurbit vegetables.

VI. CROP GROUP CHANGES FOR TURNIP GREENS:

Turnip greens will be removed from Crop Group 2: Leaves of root and tuber vegetables group [40 CFR 180.41 (2)], and it will become a member of Crop Group 5: Brassica leafy vegetables [40 CFR 180.41 (5)]. It will also be a member of Crop Subgroup 5B: Leafy *Brassica* greens. Forage turnip varieties grown for livestock feed uses only will remain in Crop Group 2: Leaves of root and tuber vegetables group.

VII. ALMOND RESIDUE DATA TRANSLATABLE TO PISTACHIOS:

Field residue data for almonds will be translatable to pistachios. Tolerances established for almonds will be established for pistachios at the same level.

Note: Pistachios are included as a member of the Tree Nuts Crop Group (40CFR§180.41). It was also determined that the representative commodities almond and pecan for the Tree Nuts Group adequately represent the Crop Group. The policy paper describing this action was sent to Registration Division for implementation by publishing an amendment to the Crop Group final rule in the Federal Register. However, due to FQPA priorities, the Agency has no plans to amend the Crop Group Regulations at this time, but the Agency is allowing petitioners to request tolerances for pistachios based on residue data submitted for the Tree Nut Crop Group. Until the Federal Register Notice is issued revising the Crop Group Regulation, tolerances for pistachios will be listed separately from the Crop Group, but the tolerance will be established at the same level as the Crop Group.

VIII. LINGONBERRY, JUNEBERRY, AND SALAL TO BE ADDED TO BERRIES CROP GROUP AND BUSHBERRY SUBGROUP:

Lingonberry, Juneberry, and salal will be included in Crop Group 13 - Berries and Crop Subgroup 13B- Bushberry. Until the Crop Group Regulation is reproposed for petitions, the correct Section F crop tolerance expressions are as follows:

(1). For a Crop Group 13 - Berries tolerance proposal: Berries Group and Juneberry, Lingonberry, and Salal;

(2). For a Crop Subgroup 13- B tolerance proposal: Bushberry Subgroup and Juneberry, Lingonberry, and Salal;

(3). For a blueberry tolerance proposal: Blueberry and Juneberry, Lingonberry, and Salal.
